

What is claimed is:

1 1. A transformer comprising:
2 an iron core structure;
3 a first bobbin comprising a first hollow portion and a
4 second hollow portion, wherein the iron core
5 structure passes through and surrounds the first and
6 second hollow portions;
7 a first primary coil wound on the first hollow portion;
8 a first secondary coil wound on the second hollow portion;
9 a second bobbin comprising a third hollow portion and a
10 fourth hollow portion, wherein the iron core
11 structure passes through and surrounds the third and
12 fourth hollow portions;
13 a second primary coil wound on the third hollow portion;
14 and
15 a second secondary coil wound on the fourth hollow portion.

1 2. The transformer as claimed in claim 1, wherein the
2 first bobbin is disposed substantially parallel to the second
3 bobbin.

1 3. The transformer as claimed in claim 1, wherein the
2 density of the windings on the second and fourth hollow portions
3 exceeds that on the first and third hollow portions.

1 4. The transformer as claimed in claim 1, wherein the
2 iron core structure comprises a first core portion, a second core
3 portion and a third core portion, the first core portion passes
4 through the first bobbin, the second core portion passes through

5 the second bobbin, and the third core portion surrounds the first
6 and second bobbins.

1 5. The transformer as claimed in claim 1, wherein the
2 first bobbin further comprises a first protrusion to separate
3 the first and second hollow portions, and the second bobbin
4 further comprises a second protrusion to separate the third and
5 fourth hollow portions.

1 6. The transformer as claimed in claim 1, further
2 comprising an insulating cover disposed on the first and second
3 bobbins.

1 7. The transformer as claimed in claim 1, wherein the
2 insulating cover comprises a separating plate to separate the
3 first and second bobbins.

1 8. The transformer as claimed in claim 1, wherein the
2 first bobbin further comprises a first engaging portion and the
3 second bobbin further comprises a second engaging portion, and
4 the first engaging portion engages the second engaging portion
5 to connect the first bobbin with the second bobbin.

1 9. The transformer as claimed in claim 8, wherein the
2 first engaging portion comprises a protruding portion and the
3 second engaging portion comprises a matching recessed portion,
4 and the protruding portion and the matching recessed portion
5 match up to each other.

1 10. The transformer as claimed in claim 8, wherein the
2 first engaging portion is a matching recessed portion and the
3 second engaging portion is a protruding portion, and the

4 protruding portion and the matching recessed portion match up
5 to each other.

1 11. A transformer comprising:
2 a plurality of bobbins disposed parallel to each other;
3 a plurality of primary coils wound on one end of each
4 bobbin;
5 a plurality of secondary coils wound on the other end of
6 each bobbin; and
7 an iron core structure passing through and surrounding each
8 bobbin.